

Application No. 10/634,708

REMARKS

The Office Action of October 14, 2005 has been carefully considered. Reconsideration of this application is respectfully requested.

Claims 1-37 are pending. Claims 1, 11, 12, and 15-20 stand rejected under 35 U.S.C. 102(b) as allegedly being anticipated by McCullough Jr., et al (USP. 4,868,038). Claims 1-13 and 20 stand rejected under 35 U.S.C. 102(b) as being anticipated by Swift et al (U.S. 5,843,567). Claims 1-25 stand rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Swift et al. (U.S. 5,281,771). Claims 26-37 stand rejected under 35 U.S.C. 102(b) as being anticipated by Swift et al. (U.S. 5,843,567).

Claims 1, 3, 19, 20, 26, 27 have been amended herein.

With respect to amended claim 1, Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not disclose or suggest, for example, at least one non-conductive member is situated between at least two conductive members; wherein the conductive members and the non-conductive members are in a non-woven relation in the substrate member, moreover, the combination of: *a substrate member including a length, a width, a thickness, and a surface area, the substrate member including a polymer, a plurality of conductive members and a plurality of non-conductive members, each of the conductive members and the non-conductive members have a length and an imaginary axis; wherein the plurality of conductive members comprises a plurality of conductive fibers and a polymer material, the plurality of conductive fibers configured in a relation to each other and in association with the polymer material; wherein the plurality of conductive members and the plurality of non-conductive members are disposed in the substrate member and are situated with respect to each other and form a matrix configuration including at least one dimension between the imaginary axis of the plurality of conductive members and including at least*

Application No. 10/634,708

one dimension between the imaginary axis of the plurality of non-conductive members; wherein at least one non-conductive member is situated between at least two conductive members; wherein the conductive members and the non-conductive members are in a non-woven relation in the substrate member; wherein the polymer of the substrate member is solidified about at least a portion of a periphery of the plurality of conductive members and is solidified about at least a portion of a periphery of the plurality of non-conductive members forming an integral structure; and wherein at least one conductive member includes an exposed surface for contact, as a whole, as recited in amended independent claim 1. Applicant respectfully submits that amended independent claim 1 is allowable and the rejection should be withdrawn.

The response with respect to amended independent claim 1 also applies to the reasons for allowability of dependent claims 2-19. Claims 2-19 depend, directly or indirectly, from amended independent claim 1 and are presumed allowable on their own merits as recited and claimed in combination with amended independent claim 1.

With respect to dependent claim 2 (which depends from amended claim 1), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 1 above and the limitation: wherein at least one of the conductive members and the non-conductive members are pultruded composite members, as a whole, as recited in claim 2. Applicant respectfully submits that claim 2 is allowable and the rejection should be withdrawn.

With respect to amended dependent claim 3 (which depends from amended claim 1), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 1 above and the limitation: wherein at least one conductive member extends from the substrate at a first side and from the substrate at a second side for a distance, as a whole, as recited in amended claim 3.

Application No. 10/634,708

Applicant respectfully submits that amended claim 3 is allowable and the rejection should be withdrawn.

With respect to dependent claim 4 (which depends from amended claim 1), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 1 above and the limitation: wherein the exposed surface includes fibers unbound and substantially free of polymer, as a whole, as recited in claim 4. Applicant respectfully submits that claim 4 is allowable and the rejection should be withdrawn.

With respect to dependent claim 5 (which depends from amended claim 1), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 1 above and the limitation: wherein the plurality of conductive members and the plurality of non-conductive members are disposed in more than one plane, as a whole, as recited in claim 5. Applicant respectfully submits that claim 5 is allowable and the rejection should be withdrawn.

With respect to dependent claim 6 (which depends from amended claim 1), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 1 above and the limitation: wherein the apparatus is adapted for association with at least one element and an electrical circuit, as a whole, as recited in claim 6. Applicant respectfully submits that claim 6 is allowable and the rejection should be withdrawn.

With respect to dependent claim 7 (which depends from amended claim 1), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 1 above and the limitation: wherein the apparatus is adapted for association with at least one element and a temporary electrical circuit wherein the at least one element is removeably securable to the apparatus, as a whole, as recited in

Application No. 10/634,708

claim 7. Applicant respectfully submits that claim 7 is allowable and the rejection should be withdrawn.

With respect to dependent claim 8 (which depends from amended claim 1), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 1 above and the limitation: further comprising an integrated circuit wherein the integrated circuit is securable to at least a portion of the apparatus, as a whole, as recited in claim 8. Applicant respectfully submits that claim 8 is allowable and the rejection should be withdrawn.

With respect to dependent claim 9 (which depends from amended claim 1), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 1 above and the limitation: further comprising a die wafer containing individual integrated circuit chips wherein the die wafer is securable to at least a portion of the apparatus, as a whole, as recited in claim 9. Applicant respectfully submits that claim 9 is allowable and the rejection should be withdrawn.

With respect to dependent claim 10 (which depends from amended claim 1), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 1 above and the limitation: wherein at least one conductive member includes a first surface area and a second surface area exposed for conduction of energy therethrough wherein the energy is selected from at least one of electric, thermal, sound, sonic, and light energy, as a whole, as recited in claim 10. Applicant respectfully submits that claim 10 is allowable and the rejection should be withdrawn.

With respect to dependent claim 11 (which depends from amended claim 1), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 1 above and the limitation: wherein the imaginary axis of at

Application No. 10/634,708

least one of the conductive members and the non-conductive members includes a form selected from substantially straight, angled, and curved, as a whole, as recited in claim 10. Applicant respectfully submits that claim 10 is allowable and the rejection should be withdrawn.

With respect to dependent claim 12 (which depends from amended claim 1), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 1 above and the limitation: wherein at least one conductive member includes a plurality of conductive carbon fibers, as a whole, as recited in claim 12. Applicant respectfully submits that claim 12 is allowable and the rejection should be withdrawn.

With respect to dependent claim 13 (which depends from amended claim 1), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 1 above and the limitation: wherein at least one conductive member is accessible along at least a portion of its length to provide a conductive surface area for contact, as a whole, as recited in claim 13. Applicant respectfully submits that claim 13 is allowable and the rejection should be withdrawn.

With respect to dependent claim 14 (which depends from amended claim 1), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 1 above and the limitation: wherein an area of the conductive member as a percent of an area of the substrate member ranges from 0.01 % to 99.5 %, as a whole, as recited in claim 14. Applicant respectfully submits that claim 14 is allowable and the rejection should be withdrawn.

With respect to dependent claim 15 (which depends from amended claim 1), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of

Application No. 10/634,708

limitations of claim 1 above and the limitation: further comprising at least one additional substrate member; the at least one additional substrate member including: (a) a plurality of conductive members comprising a plurality of conductive fibers, the conductive members having a length; and (b) a plurality of non-conductive members comprising at least one of a non-conductive fiber and a non-conductive resin, the non-conductive members having a length, the conductive members and the non-conductive members forming a matrix configuration; wherein the at least one additional substrate member is adapted for functional association with the other substrate member and defining an array of substrate members including a configuration dependent on the selected number of substrate members, as a whole, as recited in claim 15. Applicant respectfully submits that claim 15 is allowable and the rejection should be withdrawn.

With respect to dependent claim 16 (which depends from amended claim 1), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 1 above and the limitation: wherein the substrate member comprises a polymer selected from at least one of structural thermoplastic, thermosetting resin, and crosslinked silicone elastomer, as a whole, as recited in claim 16. Applicant respectfully submits that claim 16 is allowable and the rejection should be withdrawn.

With respect to dependent claim 17 (which depends from amended claim 1), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 1 above and the limitation: wherein the fibers include carbon including at least one of carbonized polyacrylonitrile fibers, carbonized pitch fibers, carbonized polybenzimidazoles (PBI) fibers, metalized carbon fibers, and combinations thereof, as a whole, as recited in claim 17. Applicant respectfully submits that claim 17 is allowable and the rejection should be withdrawn.

Application No. 10/634,708

With respect to dependent claim 18 (which depends from amended claim 1), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 1 above and the limitation: wherein the fibers include at least one of metal, metal alloy, glass, metalized glass, metalized ceramic, metalized polymer, optically transmissive polymer, and combinations thereof, **as a whole**, as recited in claim 18. Applicant respectfully submits that claim 18 is allowable and the rejection should be withdrawn.

With respect to amended dependent claim 19 (which depends from claim 15 and amended claim 1), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 1 above and the limitation: wherein the array of substrate members is adapted to be assembled into a configuration by heat lamination, adhesive bonding, ultrasonic or other welding process, by mechanical fastening or interlocking, or combinations thereof, **as a whole**, as recited in amended claim 19. Applicant respectfully submits that amended claim 19 is allowable and the rejection should be withdrawn.

With respect to amended claim 20, Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest, for example, at least one non-conductive member is disposed between at least one pair of conductive members defining a spacial relation between the plurality of conductive members and the plurality of non-conductive members in the matrix configuration; wherein the conductive members and the non-conductive members are in a non-woven relation in the substrate member, moreover, the combination of: *a substrate member comprising a polymer, the substrate member including: a length; a width; and a thickness; a plurality of conductive pultruded composite members including a plurality of conductive carbon fibers and a polymer material, the plurality of conductive carbon fibers configured in a relation to each other and in association with the polymer material, each*

Application No. 10/634,708

conductive pultruded composite member having a first end and a second end; and a plurality of non-conductive members including a plurality of non-conductive fibers, each non-conductive member having a first end and a second end; wherein the plurality of conductive pultruded composite members and the plurality of non-conductive members are disposed in the substrate member and are situated with respect to each other and form a matrix configuration including at least one dimension between the imaginary axis of a plurality of conductive pultruded composite members and including at least one dimension between the imaginary axis of a plurality of non-conductive members; wherein at least one non-conductive member is disposed between at least one pair of conductive members defining a spacial relation between the plurality of conductive members and the plurality of non-conductive members in the matrix configuration; wherein the conductive members and the non-conductive members are in a non-woven relation in the substrate member wherein the polymer of the substrate member is solidified about at least a portion of a periphery of the plurality of conductive pultruded composite members and is solidified about at least a portion of a periphery of the plurality of non-conductive members forming an integral structure; and wherein at least one conductive pultruded composite member is accessible at the first end and the second end for contact, as a whole, as recited in amended independent claim 20. Applicant respectfully submits that amended independent claim 20 is allowable and the rejection should be withdrawn.

The response with respect to amended independent claim 20 also applies to the reasons for allowability of dependent claims 21-25. Claims 21-25 depend directly from amended independent claim 20 and are presumed allowable on their own merits as recited and claimed in combination with amended independent claim 20.

With respect to dependent claim 21 (which depends from amended claim 20), Applicant respectfully submits that USP4868038,

Application No. 10/634,708

USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 20 above and the limitation: wherein at least one of the conductive pultruded composite members includes a flexible fibrillated region, as a whole, as recited in claim 21. Applicant respectfully submits that claim 21 is allowable and the rejection should be withdrawn.

With respect to dependent claim 22 (which depends from amended claim 20), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 20 above and the limitation: wherein at least one of the conductive pultruded composite members includes a hard, non-fibrillated region, as a whole, as recited in claim 22. Applicant respectfully submits that claim 22 is allowable and the rejection should be withdrawn.

With respect to dependent claim 23 (which depends from amended claim 20), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 20 above and the limitation: wherein at least one of the conductive pultruded composite members includes a shaped profile, the shaped profile selected from at least one of rectangular, square, stepped, concave dome, convex dome, concave point, convex recess, angular, and irregular, as a whole, as recited in claim 23. Applicant respectfully submits that claim 23 is allowable and the rejection should be withdrawn.

With respect to dependent claim 24 (which depends from amended claim 20), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 20 above and the limitation: wherein the substrate member includes a recessed area, as a whole, as recited in claim 24. Applicant respectfully submits that claim 24 is allowable and the rejection should be withdrawn.

Application No. 10/634,708

With respect to dependent claim 25 (which depends from amended claim 20), Applicant respectfully submits that USP4868038, USP5843567, and USP5281771 do not teach or suggest the combination of limitations of claim 20 above and the limitation: wherein the substrate member includes a plurality of conductive pultruded composite members extending in a plurality of longitudinal directions in more than one plane, as a whole, as recited in claim 25. Applicant respectfully submits that claim 25 is allowable and the rejection should be withdrawn.

For claims 26-37 the Examiner alleges that Swift et al. (U.S. 5,843,567) teaches a substrate member that is used to connect with an electrical device; the substrate member is comprised of an electrical insulating matrix and reinforced electrically conductive and non-conductive fibers. The Examiner alleges in view of Figure 5, the conductive composite has a notch that formed into the matrix portion (col. 13, lines 51-62); the fibrillated brush structure is separated by the V cut notch (Fig. 5). The Examiner takes the position that the V cut notch functions as a continuity break along the length of the conductive member as claimed by the applicant. In response, Applicants respectfully traverse the rejection of claims 26-37 and submit that Figure 5 clearly does not disclose, for example, at least one continuity break defining an interruption along the length of at least one conductive member between the first end and the second end of the at least one conductive member; at least one conductive contact area is associated with at least one conductive member on one side of the at least one continuity break, and at least one conductive contact area is associated with at least one conductive member on the other side of the at least one continuity break, as claimed. The Examiner has not provided any evidence of such limitations of claims 26-37 in Swift et al. (U.S. 5,843,567). As best understood, Figure 5 shows a notch at one end of the substrate; "two fibrillated brush structures which are separated by the space of the notch or "V" (col. 13, L 60-61) is certainly not "an interruption

Application No. 10/634,708

along the length of at least one conductive member between the first end and the second end of the at least one conductive member". Figure 5 shows a notch at an end of the substrate "since the moving photoconductor belt can have a seam across the belt which is insulative at its apex and thereby would potentially disrupt the grounding operation by lifting the grounding brush off of the conductive region of the photoconductor." (col. 13, L 55-59). Swift et al. (U.S. 5,843,567) does not disclose or suggest the limitation "*at least one continuity break defining an interruption along the length of at least one conductive member between the first end and the second end of the at least one conductive member; at least one conductive contact area is associated with at least one conductive member on one side of the at least one continuity break, and at least one conductive contact area is associated with at least one conductive member on the other side of the at least one continuity break.*"

With respect to amended claim 26, Applicant respectfully submits that USP5843567 does not disclose or suggest, for example, at least one continuity break defining an interruption along the length of at least one conductive member between the first end and the second end of the at least one conductive member; at least one conductive contact area is associated with at least one conductive member on one side of the at least one continuity break, and at least one conductive contact area is associated with at least one conductive member on the other side of the at least one continuity break, moreover, the combination of: *a substrate member comprising a polymer, the substrate member having a length, width, and thickness; a plurality of conductive members having a first end, second end, and length, the plurality of conductive members comprising a plurality of conductive fibers extending in the substrate member; at least one continuity break defining an interruption along the length of at least one conductive member between the first end and the second end of the at least one conductive member; at least one conductive contact area is associated with at least one conductive member on one side of*

Application No. 10/634,708

the at least one continuity break, and at least one conductive contact area is associated with at least one conductive member on the other side of the at least one continuity break; wherein the plurality of conductive members are disposed in the substrate member and are situated with respect to each other and form a matrix configuration including at least one dimension between the imaginary axis of a plurality of conductive members; wherein the polymer of the substrate member is solidified about at least a portion of a periphery of the plurality of conductive members forming an integral structure, as a whole, as recited in amended independent claim 26. Applicant respectfully submits that amended independent claim 26 is allowable and the rejection should be withdrawn.

The response with respect to amended independent claim 26 also applies to the reasons for allowability of dependent claims 27-37. Claims 27-37 depend, directly or indirectly, from amended independent claim 26 and are presumed allowable on their own merits as recited and claimed in combination with amended independent claim 26.

With respect to amended dependent claim 27 (which depends from amended claim 26), Applicant respectfully submits that USP5843567 does not teach or suggest the combination of limitations of claim 26 above and the limitation: wherein the at least one continuity break is defined by a recess formed in the substrate member and absence of a portion of the at least one conductive member, as a whole, as recited in amended claim 27. Applicant respectfully submits that amended claim 27 is allowable and the rejection should be withdrawn.

With respect to dependent claim 28 (which depends from amended claim 26), Applicant respectfully submits that USP5843567 does not teach or suggest the combination of limitations of claim 26 above and the limitation: wherein the at least one recess includes a width, depth, and extends in the substrate member, as a whole, as recited in claim 28. Applicant

Application No. 10/634,708

respectfully submits that claim 28 is allowable and the rejection should be withdrawn.

With respect to dependent claim 29 (which depends from amended claim 26), Applicant respectfully submits that USP5843567 does not teach or suggest the combination of limitations of claim 26 above and the limitation: wherein the apparatus further includes a plurality of non-conductive members comprising non-conductive fibers, as a whole, as recited in claim 29. Applicant respectfully submits that claim 29 is allowable and the rejection should be withdrawn.

With respect to dependent claim 30 (which depends from amended claim 26), Applicant respectfully submits that USP5843567 does not teach or suggest the combination of limitations of claim 26 above and the limitation: wherein at least one of the conductive members and the non-conductive members are pultruded composite members, as a whole, as recited in claim 30. Applicant respectfully submits that claim 30 is allowable and the rejection should be withdrawn.

With respect to dependent claim 31 (which depends from amended claim 26), Applicant respectfully submits that USP5843567 does not teach or suggest the combination of limitations of claim 26 above and the limitation: wherein the at least one conductive contact area is adapted to associate with at least one of an integrated circuit and an electronic component to provide continuity from the at least one conductive member on one side of the at least one continuity break, across the at least one continuity break, and to the at least one conductive member on the other side of the at least one continuity break, as a whole, as recited in claim 31. Applicant respectfully submits that claim 31 is allowable and the rejection should be withdrawn.

With respect to dependent claim 32 (which depends from amended claim 26), Applicant respectfully submits that USP5843567 does not teach or suggest the combination of limitations of claim 26 above and the

Application No. 10/634,708

limitation: wherein an end of at least one conductive member extends from the substrate, **as a whole**, as recited in claim 32. Applicant respectfully submits that claim 32 is allowable and the rejection should be withdrawn.

With respect to dependent claim 33 (which depends from amended claim 26), Applicant respectfully submits that USP5843567 does not teach or suggest the combination of limitations of claim 26 above and the limitation: wherein the plurality of conductive members includes exposed fibrillated fibers, **as a whole**, as recited in claim 33. Applicant respectfully submits that claim 33 is allowable and the rejection should be withdrawn.

With respect to dependent claim 34 (which depends from amended claim 26), Applicant respectfully submits that USP5843567 does not teach or suggest the combination of limitations of claim 26 above and the limitation: wherein the plurality of conductive composite members include conductive fibers comprising at least one of carbon fibers, metallized carbon fibers, metallized glass fibers, metallized polymeric fibers, carbon particle containing polymeric fibers, metal particle containing polymeric fibers, intrinsically conducting polymeric fibers, fine metal wires, and combinations thereof, **as a whole**, as recited in claim 34. Applicant respectfully submits that claim 34 is allowable and the rejection should be withdrawn.

With respect to dependent claim 35 (which depends from amended claim 26), Applicant respectfully submits that USP5843567 does not teach or suggest the combination of limitations of claim 26 above and the limitation: wherein the substrate member comprises at least one conductive member including a first surface area on one side of the at least one continuity break and a second surface area on the other side of the of the at least one continuity break exposed for conduction of energy therethrough wherein the energy is selected from at least one of electric, thermal, sound, sonic, and light energy, **as a whole**, as recited in claim 35. Applicant respectfully submits that claim 35 is allowable and the rejection should be withdrawn.

Application No. 10/634,708

With respect to dependent claim 36 (which depends from amended claim 26), Applicant respectfully submits that USP5843567 does not teach or suggest the combination of limitations of claim 26 above and the limitation: wherein the at least one conductive contact area is adapted to associate mechanically and electrically with an electronic component to provide an electro-mechanical contact, as a whole, as recited in claim 36. Applicant respectfully submits that claim 36 is allowable and the rejection should be withdrawn.

With respect to dependent claim 37 (which depends from amended claim 26), Applicant respectfully submits that USP5843567 does not teach or suggest the combination of limitations of claim 26 above and the limitation: wherein the at least one non-conductive area is adapted to associate mechanically with an electronic component to provide a mechanical contact structure, as a whole, as recited in claim 37. Applicant respectfully submits that claim 37 is allowable and the rejection should be withdrawn.

The pending claims provide apparatus for contacts, testing, circuits, and connectors. Applicant respectfully requests the Examiner to avoid hindsight analysis during examination of the pending claims, to carefully consider every limitations in each pending claim, and to examine each pending claim as a whole.

In summary, the provided limitations as claimed, as a whole, in the pending claims 1-37 are not disclosed or suggested in USP4868038, USP5843567, and USP5281771 and are patentable. USP4868038, USP5843567, and USP5281771, individually or combined, do not disclose or suggest each and every limitation in the pending claims 1-37.

Accordingly, Applicant respectfully requests that the Examiner withdraw the rejections and to allow the claims 1-37 and this application.

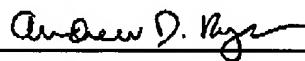
Application No. 10/634,708

CONCLUSION

No additional fee is believed to be required for this amendment, however, the undersigned Xerox Corporation attorney hereby authorizes the charging of any necessary fees, other than the issue fee, to Xerox Corporation Deposit Account No. 24-0025.

In the event the Examiner considers personal contact advantageous to the disposition of this case, the Examiner is hereby authorized to call Andrew D. Ryan, at Telephone Number 585-422-8085, Rochester, New York.

Respectfully submitted,



Andrew D. Ryan
Attorney for Applicants
Registration No. 39,351
(585) 422-8085

ADR:ez

January 13, 2006

Xerox Corporation
Xerox Square 20A
Rochester, NY 14644